

ABSTRACT OF THE DISCLOSURE

Projections/depressions of a two-dimensional periodic structure are formed in a p-GaN layer (4) such that the period of the projections/depressions is 1 to 20 times the wavelength of light radiated from an active layer (3) in a semiconductor. As a result, a
5 diffractive effect achieved by the projections/depressions of the two-dimensional periodic structure change the direction in which the light radiated from the active layer (3) travels. If the projections/depressions are not provided, light at a radiation angle which satisfies conditions for total reflection at the interface between a semiconductor device and an air cannot be extracted to the outside of the semiconductor device so that the light emission
10 efficiency of the device is low. By contrast, the projections/depressions as formed with a period according to the present invention diffract the light at an angle which does not cause total reflection so that the efficiency with which the light is extracted to the outside of the semiconductor device is improved exponentially. This improves the light emission efficiency of the device.